

Work Order ID 63378

Thursday, October 28, 2010 10:23:13 AM

Page 1

Item ID: D206-642-541

Accept

Revision ID:

Item Name: Replacement Skidtube

Start Date: 10/28/2010 Start Qty: 1.00

Required Date: 11/11/2010 Req'd Qty: 1.00

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

D3274

D

IIN-D206-642

Rev M

100

0.00

DC

Document Control

DOCUMENT CONTROL

Memo

0.00

Photocopy bluefile & type labels per PPP D206-642-541 CHG003

N/A c 10/12/13

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

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Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

110

0.00



Skidtubes

Skidtubes

Memo

0.00

VERIFY AND INSPECT THE MATERIAL PRIOR TO USE

1- Bend FWD end of tube using bend prog D3274 FWD and foil 10 as per dwg D3274, cut fwd end of tube with saw table setup D3274.

SAD 10-11-03 ①

2- remove fwd indexing ridge as per dwg D3274. Prepare for welding

BE 10-11-04

3- weld fwd cap as per dwg D3274 and QSI004

AR Aluminum Rod Batch:

m111385/m115778

BE 10-11-04

4- grind fwd cap weld on top surface only

BE 10/11/04

5- Cut AFT end of tube at 170.9" as per dwg D3274 and deburr end.

6-Drill Aft cap pilot hole using DT8025

7 -Cleco DT8025 in position and install pilot hole drill Jig DT8742A,B,C,D.
Drill 3/16" pilot holes as per Dwg D3274

BE 10/11/04

8 -Remove inner indexing ridge on aft end of skidtube as per Dwg D3274 scribe batch #

9 -Open aft end cap holes to Ø0.208" as per Dwg D3274. Deburr aft end.

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Run Hours

Tool ID

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Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

120

Chemical Conversion Coat per QSI005 4.1

0.00



HandFinish

Memo

0.00

Hand Finishing

1 _____ ~~10/11/09~~

130

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

Solvlor

140

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

Solvlor

② _____

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150 	Skidtubes	0.00							
Skidtubes	Memo	0.00							
Skidtubes	1-Open Ø0.313" and 0.375" crossbolt spacer holes as per Dwg D3274								
	2-Deburr crossbolt spacer holes as per Dwg D3274 and blow out chips from inside the tube								
	3-Bond web in place as per Dwg D3274 & OSI 015. A/R <input type="checkbox"/> SikaFlex-291 <input type="checkbox"/> <u>M116040</u> <input type="checkbox"/> SikaFlex expire date: <input type="checkbox"/> <u>11-9-30</u> <input type="checkbox"/> Start: <input type="checkbox"/> <u>10-11-15</u> <input type="checkbox"/> Time: <input type="checkbox"/> <u>11:55 PM</u> Finish: <input type="checkbox"/> <u>10/11/16</u> <input type="checkbox"/> Time: <input type="checkbox"/> <u>8:30 AM</u> (Adhere for 12 hours)								
160 	QC5- Inspect part completeness to step on W/O	0.00							
QC	Memo	0.00							
Quality Control									

Handwritten notes: > DP

Handwritten notes: 1 BB 10/11/10 10-11-15

Handwritten note: 8/10/16

Handwritten note: (X)

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
170 	Skidtubes	0.00							
Skidtubes	Memo	0.00							
Skidtubes	1-Bend AFT end of tube using bend prog. D3274 AFT as per dwg D3274. Install drop pins in crossbolt spacer holes to maintain web position.								
	2- DRILL PILOT HOLES FOR WEARPLATES USING D3274-1T2 OPEN HOLES TO .297" . Deburr								
	3-DRILL TOE PIN HOLE .640" DIA AS PER DWG USING DT8935 FWD END OF TUBE DEBURR INSIDE OF HOLE AS NECESSARY (DO NOT ENLARGE HOLES) REMOVE ANY FOREIGN OBJECTS INSIDE OF TUBES								
	4- Countersink crossbolt spacer holes as per Dwg D3274								
	5- prepare for welding								
180 	QC5- Inspect part completeness to step on W/O	0.00							
QC	Memo	0.00							
Quality Control									

BE 10/11/16

BB

10/11/16

L⁰ 9.60
L² 3.004

8/10/17

(70)

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Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Setup Start

Stop

Run Start

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190  Skidtubes	Skidtubes	0.00							
Skidtubes	Memo 1-Insert D2649 & D3275-1 crossbolt spacers. Weld as per QSI 004 and Dwg D3274. Remember to back drill each hole before welding the other side. Use aluminum rod A/R <input type="checkbox"/> Aluminum Rod <u>M111385</u> <i>BE 10/11/17</i> 3-Grind cross bolt welds flush as per Dwg D3274. <i>BE 10/11/22</i> 4-Counterbore 5/16" x 0.750" deep as per Dwg D3274 and deburr. <i>BE 10/11/22</i>	0.00							
200  QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00							<i>5 10/11/23</i> <i>40</i>

W/O:		WORK ORDER CHANGES					
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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

210

QC10- Inspect visual per QSI004- ground welds

0.00



QC

Memo

0.00

Quality Control

S 10/11/23

1

mi

220

Pressure Wash per QSI005 4.3

0.00



HandFinish

Memo

0.00

Hand Finishing

=) H 10/11/23

1

1

✓ Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch

230

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



Powdercoat

Memo

0.00

Powder Coating

M 11/5/29

START TIME: *11:10*
OVEN TEMPERATURE: *320°*
FINISH TIME: *11:40*

1

BF 10-11-23

W/O:		WORK ORDER CHANGES					
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Process Plan:

Date:

Tooling:

Date:

Run Start

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

240

QC3- Inspect Part Finish

0.00

⇒ 10/11/25

QC

Memo

0.00

Quality Control

250

HandFinishing

0.00

⇒ 10/11/25

HandFinish

Memo

0.00

Hand Finishing

✓ 1-Install Nut Plate as per Dwg D3274. Apply LPS-3 to Nut Plate and rivets.
A/R ☐ A ☐ LPS-3 ☐ 11/10/9956

✓ 2-Install inserts as per Dwg D3274. Use a drop of Sikaflex inside insert holes a
A/R ☐ ☐ Sikaflex-291 ☐ 11/15/14 ☐
Sikaflex expire date: ☐ 11/21

260

QC5- Inspect part completeness to step on W/O

0.00

QC

Memo

0.00

Quality Control

Inspect Nut Plate & Inserts

10 11 25 ①

W/O:		WORK ORDER CHANGES					
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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

270

0.00



HAND FINISHING RESOURCE #1

HandFinish

Hand Finishing

Memo

0.00

✓ 1-Install wearpads & gaskets as per Dwg D3274.

2-Install ring as per Dwg D3274

A/R ☐ Sikaflex-291 ☐ 11/15/10

Sikaflex expire date: ☐ 11/10/10

✓ 3-Inspect for foreign objects as per QSI 024

✓ 4-Spray inside of tube on both sides of web with LPS-3

A/R LPS-3 Batch: 214

5-Install Aft Cap and seal with Sikaflex. Clean excess adhesive.

A/R ☐ Sikaflex-291 ☐ 11/15/10

Sikaflex expire date: ☐ 11/10/10

280

QC5- Inspect part completeness to step on W/O

0.00



QC

Quality Control

Memo

0.00

⇒ 10/11/25

(4)

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

290

Identify as per dwg & Stock Location: _____

0.00



Packaging

Memo

0.00

Packaging

PM 62784

300

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

mf
10-12-10

W/O:		WORK ORDER CHANGES					
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Picklist Print

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Page 1

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Start Date: 10/28/2010

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Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:B 05.09.23 Revised per D206-642 Rev. J KJ/JLM
 IPP Rev:C 07-02-23 Added SS Wearplates & Gaskets JLM
 IPP Rev:D 07-12-06 replace NAS1515H3L to D3672-1 DD
 IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC
 IPP Rev:F 08-06-02 add comment DD verified by:EC
 IPP Rev:G 08-10-09 revise details DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2600-1-190  Extrusion Round 3" 206		Manufactured	No			110	Each	63.0000	1	1			
<div> <div>Location</div> <div> <div>LG</div> <div>47575</div> <div>59874</div> </div> </div> <div> <div>Loc Qty</div> <div>63</div> <div>15</div> <div>48</div> </div> <div> <div>Loc Code</div> <div></div> </div>													
D3285-1  Cap		Manufactured	No			110	Each	141.0000	1	1			
<div> <div>Location</div> <div> <div>LG</div> <div>52511</div> <div>52647</div> </div> </div> <div> <div>Loc Qty</div> <div>141</div> <div>74</div> <div>67</div> </div> <div> <div>Loc Code</div> <div></div> </div>													
D3282-041  Float Web (206L/407)		Manufactured	No			150	Each	0.0000	1	1			

B 63390

SAD 10-11-03

①

BE 10/11/04

① DP 10-11-15

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Start Date: 10/28/2010

Required Date: 11/11/2010

Start Qty: 1.00

Required Qty: 1.00

D2649

Manufactured No

190

Each

107.0000

12

12



Cross Bolt Spacer

Location

Loc Qty

Loc Code

LG

107

58545

2

60652

4

61496

13

62889

88

B 63359 12 BE 10/11/17

D3275-1

Manufactured No

190

Each

216.0000

12

12



Crossbolt Spacer

Location

Loc Qty

Loc Code

LG

216

53453

8

61646

102

62399

106

12 BE 10/11/17

CR3212-4-03

Purchased No

250

Each

1,874.000

2

2



Cherry Rivet

Location

Loc Qty

Loc Code

ST311

1874

111359

5

112314

2

114436

448

114450

71

114859

1348

24 10/11/25

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Shop Packet Print

Page 2

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Start Qty: 1.00

Required Qty: 1.00

D3415-041 Manufactured No 250 Each 52.0000 1 1

 Nut Plate  10/11/25

Location	Loc Qty	Loc Code
ST056	52	
33842	52	
CCR264SS3-3 Purchased No 250 Each 416.0000 2 2		
		
Cherry Rivet		
		10/11/25

Location	Loc Qty	Loc Code
ST311	416	
112314	4	
113539	44	
113973	368	
ALS4-1032-130 Purchased No 250 Each 2,653.000 78 78		
		
Insert		
		10/11/25

Location	Loc Qty	Loc Code
PKG11	886	
114723	886	
ST282	1728	
110511	10	
115911	1718	
ST381	39	
114654	39	

1116049 x 18

V60

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Shop Packet Print

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Dart Aerospace Ltd

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Thursday, October 28, 2010 10:23:18 AM

Page 4

Work Order ID: 63378

Parent Item: D206-642-541




Parent Item Name: Replacement Skidtube

Start Date: 10/28/2010




Required Date: 11/11/2010

Start Qty: 1.00




Required Qty: 1.00

D3536-15 Manufactured No 270 Each 18.0000 1 1
   all 10/11/25
 Gasket




Location	Loc Qty	Loc Code
FP	6	B63568
56055	1	
60875	5	
FP11	12	
59238	1	
62459	11	

D3536-23 Manufactured No 270 Each 3.0000 1 1
   all 10/11/25
 Gasket

Location	Loc Qty	Loc Code
FP011	3	B63238
61237	3	

D3536-35 Manufactured No 270 Each 16.0000 1 1
   all 10/11/25
 Gasket

Location	Loc Qty	Loc Code
FP012	16	B63579
58683	1	
61692	3	
62462	12	

D3536-39 Manufactured No 270 Each 12.0000 1 1
   all 10/11/25
 Gasket

Location	Loc Qty	Loc Code
FP12	12	B63570
58215	1	
58571	11	

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Page 4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Thursday, October 28, 2010 10:23:18 AM

Page 5

Work Order ID: 63378

Parent Item: D206-642-541



Parent Item Name: Replacement Skidtube

Start Date: 10/28/2010



Required Date: 11/11/2010

Start Qty: 1.00



Required Qty: 1.00

D3535-15 Manufactured No 270 Each 22.0000 1 1
  all 10/11/25
 Wearshoe

Location	Loc Qty	Loc Code
FP18	22	
61241	6	
62241	3	
62707	13	✓

D3535-35 Manufactured No 270 Each 26.0000 1 1
  all 10/11/25
 Wearshoe

Location	Loc Qty	Loc Code
FP018	26	
60865	6	
62461	12	
62969	8	✓

D3535-39 Manufactured No 270 Each 27.0000 1 1
  all 10/11/25
 Wearshoe

Location	Loc Qty	Loc Code
FP18	27	
60233	16	✓
62945	11	

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Page 5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Thursday, October 28, 2010 10:23:18 AM

Page 6

Work Order ID: 63378

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 10/28/2010

Required Date: 11/11/2010

Start Qty: 1.00

Required Qty: 1.00

D3535-23

Manufactured No

270

Each

28.0000

1

1



Wearshoe

Location

Loc Qty

Loc Code

FP

7

61830

6

FP021

21

60231

8

62706

13



all 10/11/25

D3537-3

Manufactured No

270

Each

40.0000

1

1



Wearpad

Location

Loc Qty

Loc Code

FP17

40

60866

3

61674

17

62705

20



all 10/11/25

D3537-1

Manufactured No

270

Each

66.0000

9

9



Wearpad

Location

Loc Qty

Loc Code

FP

1

55465

1

FP017

59

61986

15

62209

44

FP17

6

57713

3

60491

3



all 10/11/25

1362928

v9

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Page 6

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Thursday, October 28, 2010 10:23:18 AM

Page 7

Work Order ID: 63378

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 10/28/2010

Required Date: 11/11/2010

Start Qty: 1.00

Required Qty: 1.00

AN960C10L NAS1149C0332 Purchased No

270 Each 29.0000 80 80



washer

M115832



x80 JLD 10/14/20

Location

Loc Qty

Loc Code

ST245

29

107534

29

AN960C416 NAS1149C0463 Purchased No

270 Each 30.0000 1 1



washer



JLD 10/14/25

Location

Loc Qty

Loc Code

ST346

30

100993

30

D3672-1 Manufactured No

270 Each 847.0000 2 2



Phenolic Washer



JLD 10/14/25

Location

Loc Qty

Loc Code

ST077

847

42329

150

52505

697

VZ

Thursday, October 28, 2010 10:23:18 AM

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Page 7

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Thursday, October 28, 2010 10:23:18 AM

Page 8

Work Order ID: 63378

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 10/28/2010

Required Date: 11/11/2010

Start Qty: 1.00

Required Qty: 1.00

AN3C4A

Purchased

No

270

Each

2,233.000

80

80



BOLT



all 10/11/25

Location

Loc Qty

Loc Code

ST303

3

115438

3

ST350

2230

114108

14

114416

12

114523

2

115300

202

115589

1000

115936

1000

x80

AN4C5A

Purchased

No

270

Each

481.0000

1

1



BOLT



all 10/11/25

Location

Loc Qty

Loc Code

ST346

481

110552

4

112243

477

x1

D2646

Manufactured

No

270

Each

45.0000

1

1



Aft Cap



all 10/11/25

Location

Loc Qty

Loc Code

FP-4

35

57332

35

fp5

6

62652

6

FP6

4

52663

4

B63633

x1

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Page 8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Thursday, October 28, 2010 10:23:18 AM

Page 9

Work Order ID: 63378

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube



Start Date: 10/28/2010

Required Date: 11/11/2010

Start Qty: 1.00

Required Qty: 1.00

D3413-1

Manufactured No

270

Each

23.0000

1



Ring



10/11/25

Location

Loc Qty

Loc Code

ST473

23

51586

1

53446

7

61322

15

XL

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Page 9

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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DEO ATTACHED

DESIGN CP	DRAWN BY PH	DART AEROSPACE USA, INC. PORT HADLOCK, WA	
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. D3274	REV. D SHEET 1 OF 4
DATE 06.12.19		TITLE SKIDTUBE ASSEMBLY	SCALE NTS
A	04.03.15	NEW ISSUE	
B	04.08.09	MOVE SADDLE HOLE: 42.14 WAS 42.76	
C	05.03.16	ADD -043; NEW INSERTS	
D	06.12.19	NEW INSERTS, SS WEARSHOE + GASKET	

Qty -041	Qty -043	Part Number	Description
X		D3274-041	SKIDTUBE ASSEMBLY
	X	D3274-043	SKIDTUBE ASSEMBLY
1	1	D2600-1-240	EXTRUSION
1	1	D2646	AFT CAP
12	12	D2649	CROSS BOLT SPACER
12	37	D3275-1	CROSS BOLT SPACER
1	1	D3282-041	FLOAT WEB
1	1	D3285-1	CAP
1	1	D3413-1	RING
1	1	D3415-041	NUT PLATE
1	1	D3535-15	WEARSHOE
1	1	D3535-23	WEARSHOE
1	1	D3535-35	WEARSHOE
1	1	D3535-39	WEARSHOE
1	1	D3536-15	GASKET
1	1	D3536-23	GASKET
1	1	D3536-35	GASKET
1	1	D3536-39	GASKET
9	9	D3537-1	WEARPAD
1	1	D3537-3	WEARPAD
78	78	ALS7-1032-130	INSERT (or AKS4-1032-130, ALS4-1032-130, AELS-1032-130)
80	80	AN3C4A	BOLT
1	1	AN4C5A	BOLT
1	1	AN960C416	WASHER
80	80	AN960C10L	WASHER
2	2	CCR264SS3-3	RIVET
2	2	CR3212-4-03	RIVET
2	2	NAS1515H3L	WASHER

SHOP COPY
RETURN TO
ENGINEERINGUNCONTROLLED COPY
SUBJECT TO AMENDMENTWITHOUT NOTICE
WORK ORDER

NO 42328

BPO-1025

GENERAL NOTES:

1. TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
2. DAMAGE TOLERANCE ON FWD BEND:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 7 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
3. ALL HOLES DRILLED ON CENTERLINES.
4. BOND D3282-041 FLOAT WEB INTO D3274-1/-3 OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291 ADHESIVE PER DART QSI 015. ENSURE HOLES LINE-UP.
5. WELDING TO BE DONE PER DART QSI 004.
6. FINISH: - ACID ETCH, ALODINE ASSEMBLY PER DART QSI 005 4.1
- POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
7. DRILL Ø0.297 HOLES FOR ALS7-1032-130 INSERTS USING DT3274-1T2 BEFORE FINISH. INSTALL ALS7-1032-130 INSERTS AFTER FINISH. SEAL WEARSHOE BOLTS WITH SIKAFLEX -241/-291.
8. SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

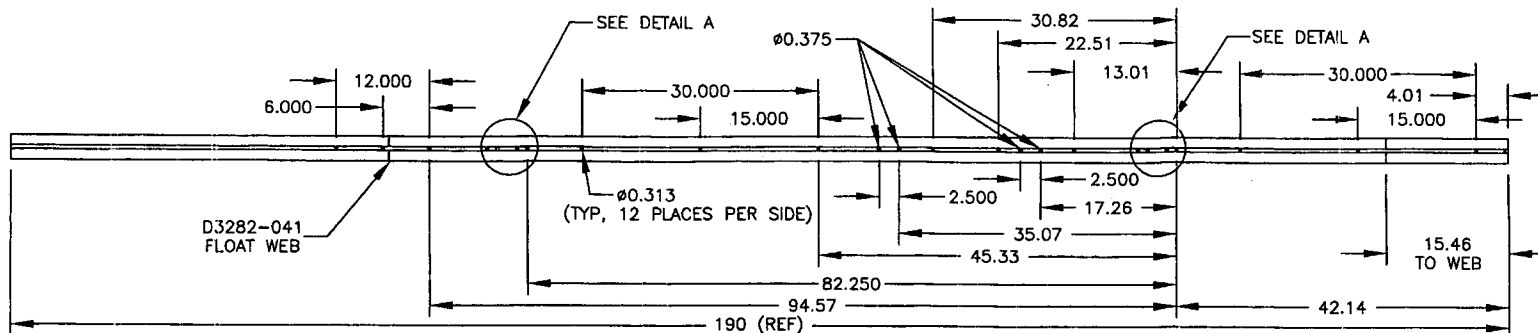
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

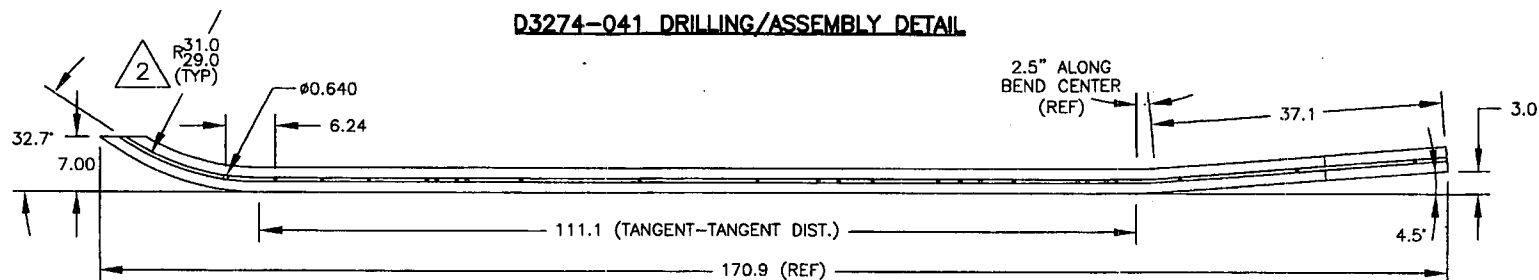
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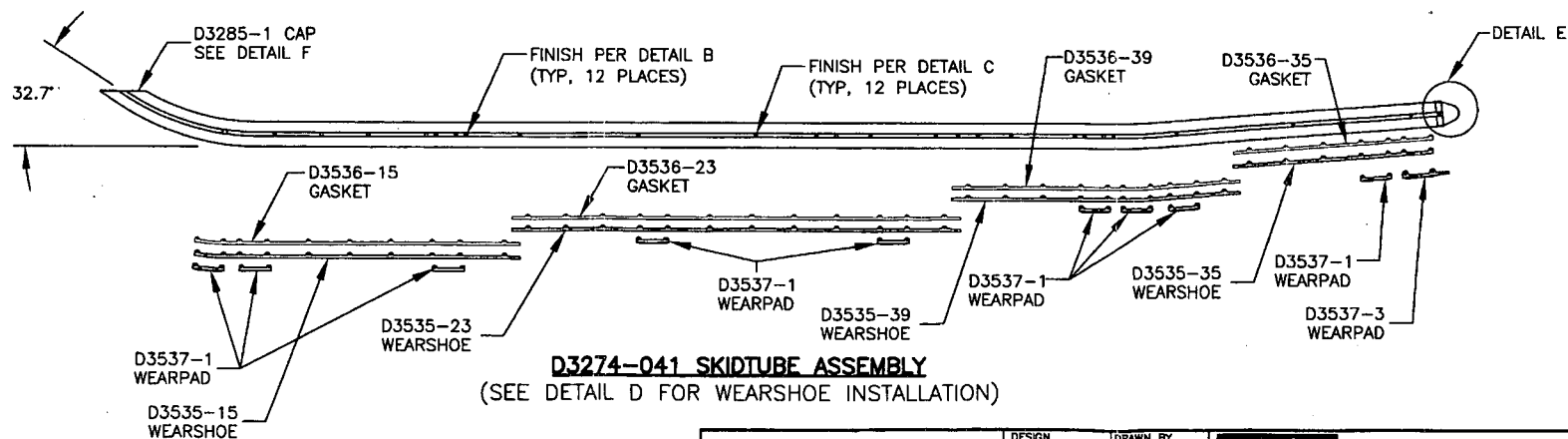
W10 63375



D3274-041 DRILLING/ASSEMBLY DETAIL



D3274-041 BEND/DRILLING DETAIL



D3274-041 SKIDTUBE ASSEMBLY
(SEE DETAIL D FOR WEARSHOE INSTALLATION)

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DESIGN CP	DRAWN BY PH	DART DART AEROSPACE USA, INC. PORT HADLOCK, WA
CHECKED #	APPROVED #	DRAWING NO. D3274
DATE 06.12.19	TITLE SKIDTUBE ASSEMBLY	REV. D SHEET 2 OF 4 SCALE 1:15

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

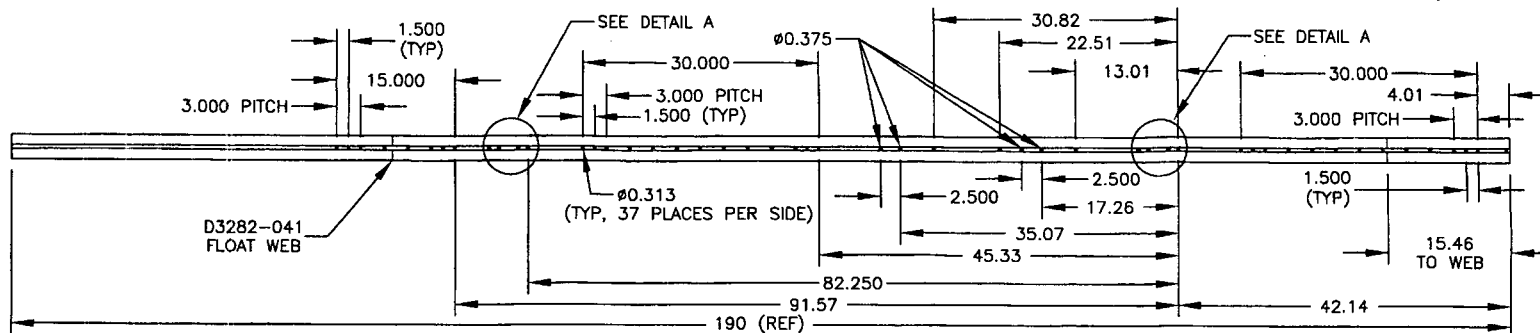
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

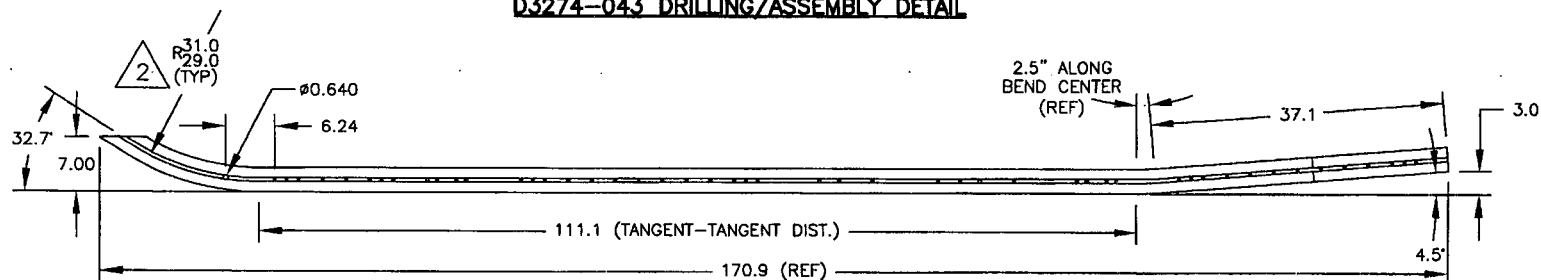
NOTE: Date & initial all entries

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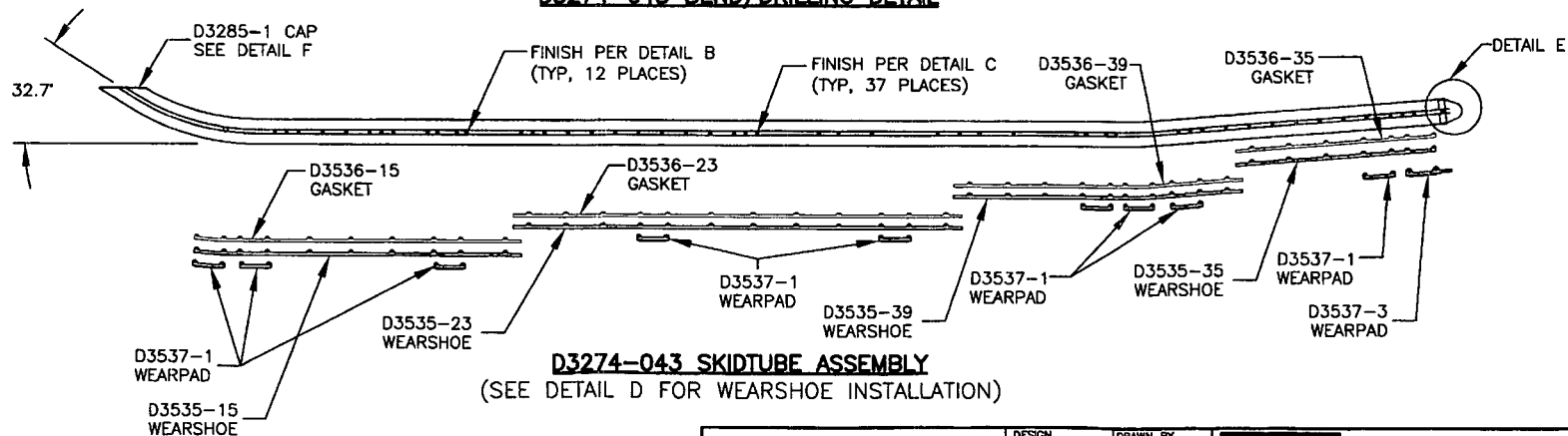
WLO 63378



D3274-043 DRILLING/ASSEMBLY DETAIL



D3274-043 BEND/DRILLING DETAIL



D3274-043 SKIDTUBE ASSEMBLY
(SEE DETAIL D FOR WEARSHOE INSTALLATION)

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DESIGN	CP	DRAWN BY	PH	DART	DART AEROSPACE USA, INC.
CHECKED	#	APPROVED	#	D3274	REV. D
DATE	06.12.19	TITLE	SKIDTUBE ASSEMBLY		SHEET 3 OF 4
					SCALE 1:15

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

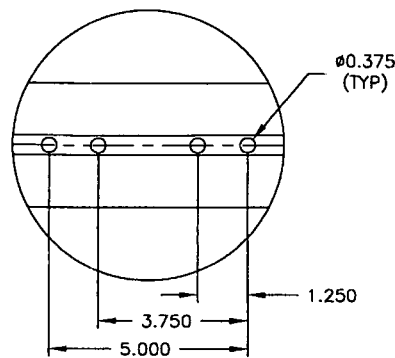
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

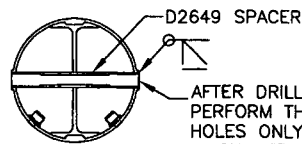
NOTE: Date & initial all entries

w/o 43378

DETAIL A: DRILL DETAIL

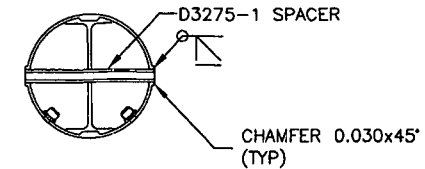


DETAIL B FOR 0.375 HOLES ONLY

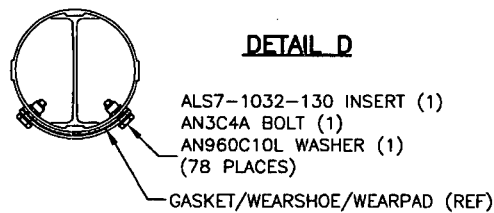


- AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR 0.375
HOLES ONLY:
1. CHAMFER HOLE 0.030x45°
 2. INSERT D2649 SPACER
 3. WELD INTO PLACE AND GRIND FLUSH
 4. C'BORE TO 0.313x0.75 DEEP

DETAIL C FOR 0.313 HOLES ONLY



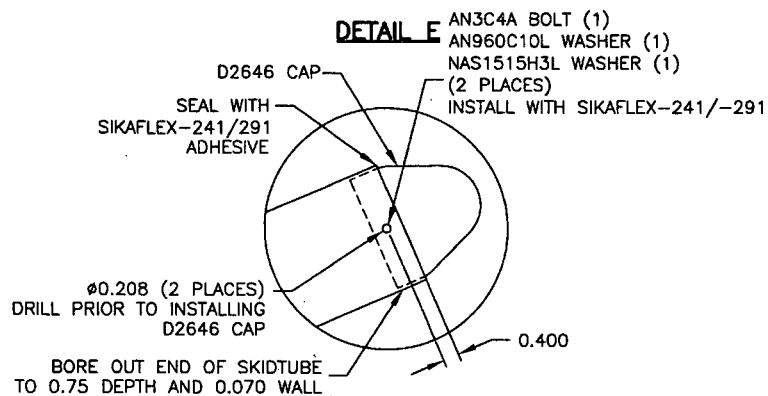
DETAIL D



- ALS7-1032-130 INSERT (1)
AN3C4A BOLT (1)
AN960C10L WASHER (1)
(78 PLACES)

GASKET/WEARSHOE/WEARPAD (REF)

DETAIL E



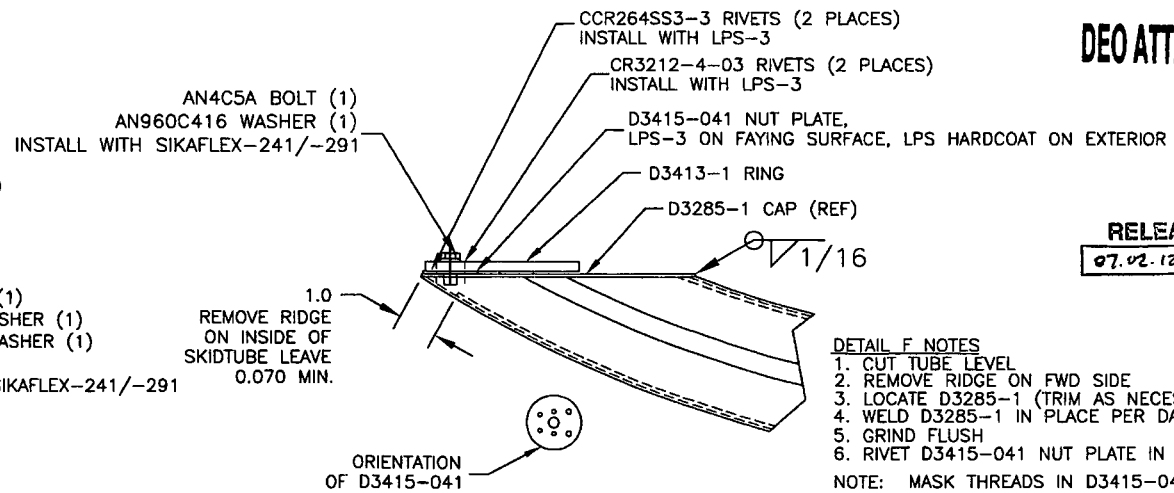
- AN3C4A BOLT (1)
AN960C10L WASHER (1)
NAS1515H3L WASHER (1)
(2 PLACES)
INSTALL WITH SIKAFLEX-241/-291

SEAL WITH
SIKAFLEX-241/291
ADHESIVE

0.208 (2 PLACES)
DRILL PRIOR TO INSTALLING
D2646 CAP

BORE OUT END OF SKIDTUBE
TO 0.75 DEPTH AND 0.070 WALL

DETAIL F: END FINISHING DETAIL



REMOVE RIDGE
ON INSIDE OF
SKIDTUBE LEAVE
0.070 MIN.

ORIENTATION
OF D3415-041

CCR264SS3-3 RIVETS (2 PLACES)
INSTALL WITH LPS-3

CR3212-4-03 RIVETS (2 PLACES)
INSTALL WITH LPS-3

D3415-041 NUT PLATE,
LPS-3 ON FAYING SURFACE, LPS HARDCOAT ON EXTERIOR

D3413-1 RING

D3285-1 CAP (REF)

- DETAIL F NOTES**
1. CUT TUBE LEVEL
 2. REMOVE RIDGE ON FWD SIDE
 3. LOCATE D3285-1 (TRIM AS NECESSARY)
 4. WELD D3285-1 IN PLACE PER DART QSI 004
 5. GRIND FLUSH
 6. RIVET D3415-041 NUT PLATE IN PLACE
- NOTE: MASK THREADS IN D3415-041
PRIOR TO FINISH

DEO ATTACHED

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DATE 06.12.19		TITLE SKIDTUBE ASSEMBLY		REV. D SHEET 4 OF 4 SCALE 1:3

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DRAWING NO. D3274	TITLE SKIDTUBE ASSEMBLY	REV. D	DART AEROSPACE USA, INC ENGINEERING ORDER		D.E.O. NO. D3274-D-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>UP</i>	CHECKED <i>[Signature]</i>	MFG. APPR. <i>[Signature]</i>	APPROVED <i>[Signature]</i>		DE APPR. <i>[Signature]</i>		
DATE 09.06.17	DATE 09.06.23	DATE 09/06/23	DATE 09/06/23		DATE 09.06.23		

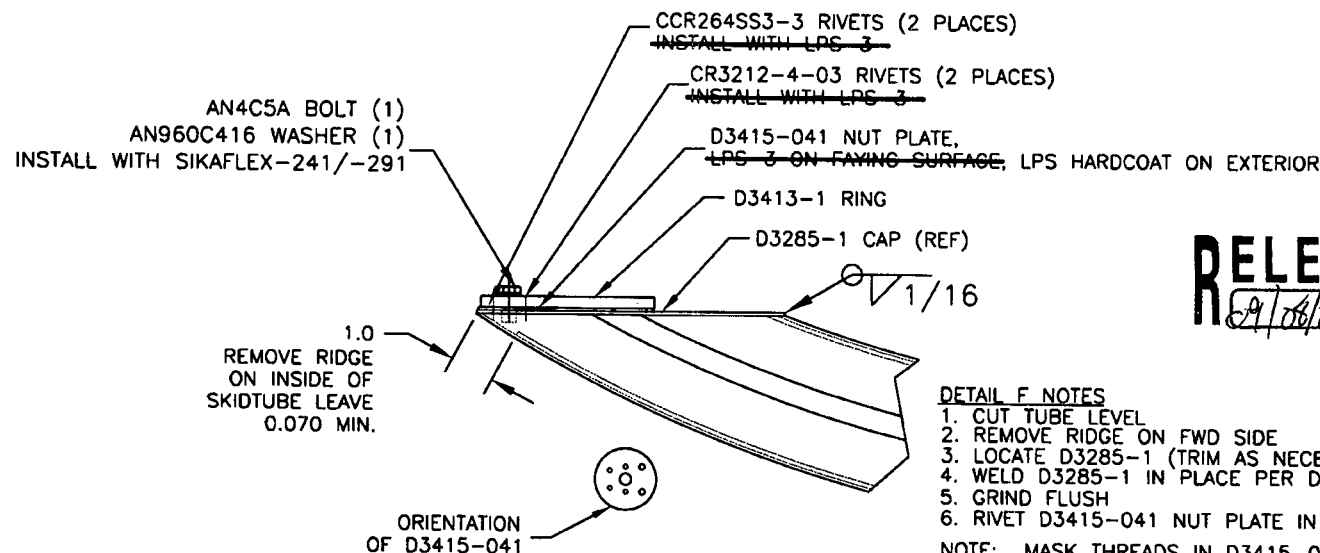
LPS-3 IS NO LONGER USED DURING ASSEMBLY OF SKIDTUBE.

AMEND NOTE 8: ~~"SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES 'LPS-3' AFTER FINISH AND INSTALLATION OF INSERTS.~~
COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES 'LPS PROCYON' AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF
POWDER COATING WITH MEK DEGREASER."

AMEND DETAIL F AS SHOWN:

W/O 43378

DETAIL F: END FINISHING DETAIL



DETAIL F NOTES

1. CUT TUBE LEVEL
2. REMOVE RIDGE ON FWD SIDE
3. LOCATE D3285-1 (TRIM AS NECESSARY)
4. WELD D3285-1 IN PLACE PER DART QSI 004
5. GRIND FLUSH
6. RIVET D3415-041 NUT PLATE IN PLACE

NOTE: MASK THREADS IN D3415-041
PRIOR TO FINISH

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 241

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job number: 622506
Part number: D206-642-541
Description: 206 skid
Welding Process: Tig ☒ Mig ☐
Base material: Aluminum
Current: AC ☒ DC ☐

TEST REQUIREMENTS AND RESULTS

Visual: pass ☒ fail ☐
Penetration: pass ☒ fail ☐

UNACCEPTABLE

Cracks: pass ☒ fail ☐
Undercut: pass ☒ fail ☐
Pin holes: pass ☒ fail ☐
Overlap (cold lap): pass ☒ fail ☐
Porosity (surface): pass ☒ fail ☐
Coloration: pass ☒ fail ☐

Qualifier D.J.D. Date of Test Coupon 10.09.30
Welder Barclay Elliott Date of Test Coupon 10.09.30

The above named individual is qualified in accordance with AWS D17.1.2001 to weld.